

Patent Claims

1. Closing unit without bars for an injection moulding machine having at least one closing drive (23) comprising two counter-moving displaceable components, with supporting rails (2) being mountable on a machine base (3) for a stationary and a glidable clamping plate (6, 12) for clamping one or more first and second form plates (17, 18), which stationary clamping plate (6) is rigidly connected to the supporting rails (2) and which displaceable clamping plate (12) is glidably supported on the supporting rails (2), whereby the stationary clamping plate (6) is connected to one of the two components (24, 25) of the closing drive (23) by means of a pivot bearing (14), characterized in that the glidable clamping plate (12) is connected to the other of the two components (24, 25) of the closing drive (23) by means of at least one pivot bearing (15) in such a manner that the closing drive (23) is secured only in these pivot bearings (14, 15), and thus the closing forces of the closing drive (23) only act upon the clamping plates (6, 12) via these pivot bearings (14, 15), and no bending moments are transmitted to the supporting rails (2) or to the machine base (3).
2. Closing unit according to claim 1, characterized in that a lever arm (21, 22) is provided between each of the two counter-moving drive components (24, 25) of the closing drive (23) and the pivot bearing (14, 15) connected to such drive component.
3. Closing unit according to claim 2, characterized in that the lever arms (21, 22) are rigidly connected to the displaceable drive components (24, 25) of the closing drive (23).

4. Closing unit according to claim 2, characterized in that the lever arms (21, 22) are arranged in a scissor-like manner and are displaceably connected to the displaceable drive components (24, 25) of the closing drive (23).
5. Closing unit according to one of claims 1 to 4, characterized in that the supporting rail (2) comprises a support block (5) to which the stationary clamping plate (6) is rigidly attached.
6. Closing unit according to claim 5, characterized in that a pivot bearing (14) is provided in the support block (5).
7. Closing unit according to claim 1, characterized in that the glidable clamping plate (12) is connected to a glide shoe (8) in which one of the pivot bearings (15) is arranged.
8. Closing unit according to claim 1, characterized in that the closing drive (23) is a hydraulic drive.
9. Closing unit according to claim 1, characterized in that the closing drive (23) is an electric motor.
10. Closing unit according to claim 1, characterized in that the closing drive (23) is an electromagnet.
11. Closing unit according to claim 1, characterized in that the closing drive (23) is a pneumatic drive.